

Solar Forecasting in PJM Operations

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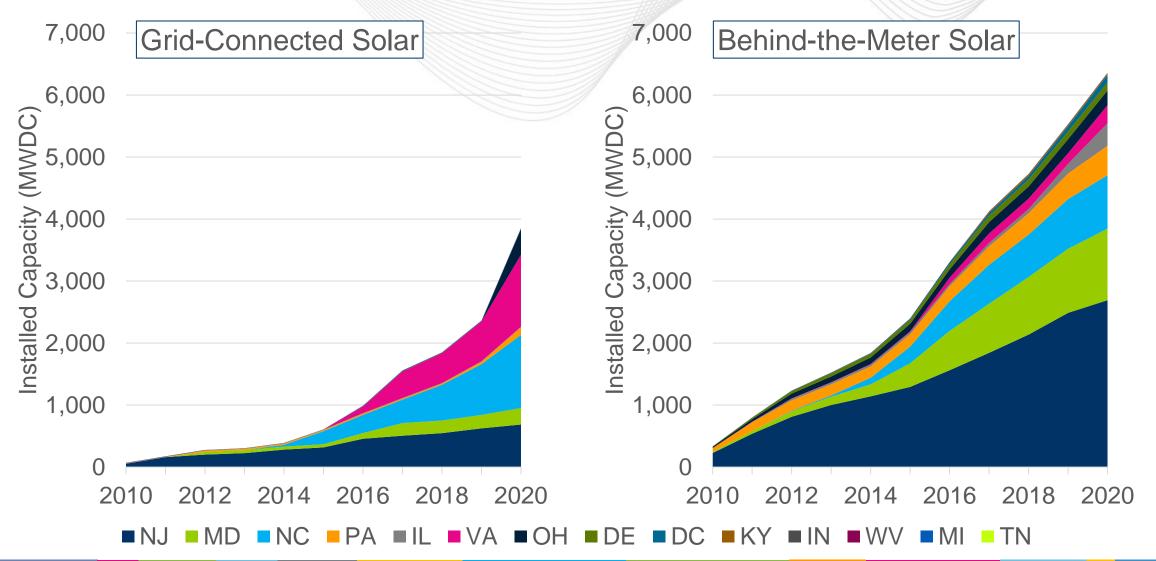
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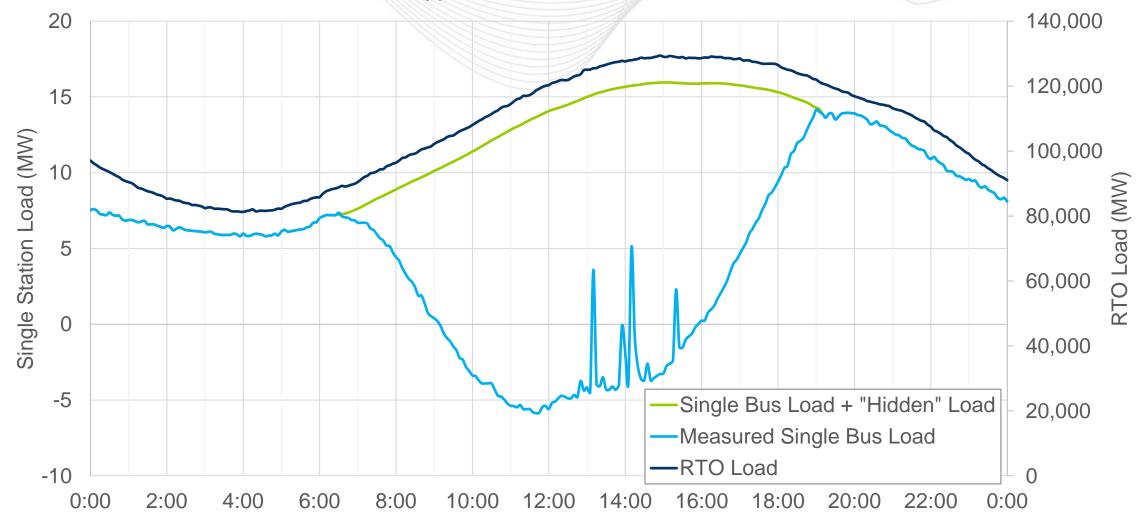
Installed Solar Capacities in PJM Footprint





Observed Impact of Behind-the-Meter Solar

Typical Summer Load Curve



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5-minute frequency for next 6 hours Hourly for next 7 days

Solar

Est. 2016

Wind

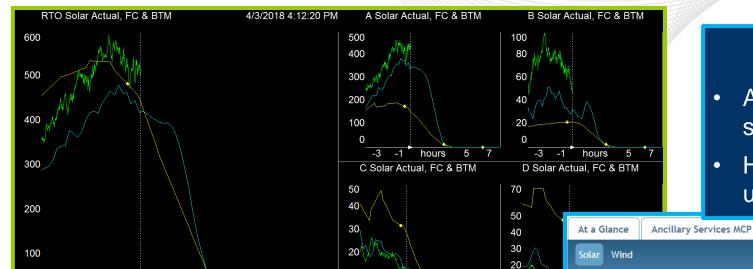
Est. 2008

Grid-Connected Behind-the-Meter

Grid-Connected



Solar Forecast Displays



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Stakeholder visibility

- Aggregate wholesale and non-wholesale solar output through end of next day
- Hourly, unit specific forecast available to unit owners through online markets tool

Operator visibility

- Aggregate wholesale and non-wholesale output for RTO and zones with highest penetrations
- Hourly, unit specific forecast available through desktop tool





Solar Forecast Timeline

2016

Collect input data from solar parks; initiate forecasts

2017

Establish data requirements; publish forecast data externally

2018

Integrate behind-the-meter solar forecast into load forecast

2019

Plan enhancements for forecast data storage and use

2020

Increase real-time visibility into BTM solar production

2021

Draft roadmap for optimizing forecast value across company



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